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LIGATURE OF THE FEMORAL VEIN IN DIABETIC AND SENILE GANGRENE.*

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OBLITERATIVE ARTERIAL DISEASES are divided into two types, the *spastic* and the *organic*. In the first type, found associated with sympathetic overactivity, great advances in treatment by conservative methods, both surgical and non-surgical, have been made, such as periarterial sympathectomy, ganglionectomy, Buerger's special exercises, and non-specific protein therapy. In the organic type, which is the cause of gangrene in diabetes and senility, the above mentioned methods are dangerous or useless, non-specific protein therapy causing thrombosis in the vessels and sympathetic procedures being ineffective. As such, the only therapeutic hope in the conservative management of these conditions is to preserve and stimulate the remaining vascular pathways to carry on a competent circulation, and the method of choice towards this end would appear to be VEIN LIGATION.

It is interesting to trace the DEVELOPMENT of therapeutic vein ligation in modern surgery. A generation ago, when ligation of arteries was being taught to students in their course on operative surgery, great stress was laid on the necessity of avoiding injury to the accompanying vein. During and after the Great War it was demonstrated that this teaching was fallacious, and that the risks of gangrene were often minimized by ligation of the accompanying vein. And now it has been established by experimental evidence that occlusion of the vein simultaneously with the

* From the wards of the Honorary Surgeon, Government Royapuram Hospital. Read at a clinical meeting of the South Indian Medical Union held on May 9, 1935.

artery results in greater arterial and venous pressure, in an increase in the distal arterial circulatory bed, and, probably, in an increase in the functional efficiency of the capillaries. Because of these effects on the arterial circulation, therapeutic vein ligation was suggested in three conditions: (1) cases of sudden arterial obstruction, as by ligature; (2) cases of arteriovenous aneurysm; and (3) cases of gradual arterial obliteration—three conditions having in common arterial ischaemia and reduced arterial pressure. The use of this method in obliterative arterial disease only is discussed here, and the clinical experiences of J. de Pemberton and J. M. McCaughan, which showed that vein ligation is definitely indicated when collateral circulation is inadequate and insufficient, show its great appropriateness in the treatment of arterio-sclerotic gangrene.

In gangrene of the lower extremity, although ligature of the popliteal vein has been suggested, the femoral vein is preferred because of its more superficial position and the probably better effects resulting from its ligation. The technique of femoral vein ligation is as follows:—

The upper part of Scarpa's triangle of the affected side is prepared as usual for operation. A vertical incision about 1½ inches to 2 inches long, parallel to the line of the artery (as made out by digital pressure) and medial to it, is made commencing about half an inch below the inguinal ligament. The skin, superficial fascia, and deep fascia are divided, and the margins of the wound held aside with retractors, when the anterior layer of the femoral sheath will be exposed. The sheath is opened slightly on the medial side to avoid injuring the artery, and an aneurysm needle with catgut ligature is passed from the lateral side. The vein is doubly ligated and divided below the great saphenous vein, after which the wound is closed in the usual manner.

Local anæsthesia with 1 per cent novocaine-adrenaline solution is the anæsthesia of choice. General anæsthesia could be used when patients are in a position to stand it, as the operation even in the most inexperienced hands will not take more than fifteen minutes.

The beneficial effects of vein ligation are the subjective sensation of warmth, the diminution of pain, and the objective changes in the limbs. These include accelerated healing of the local lesion, an increase in the rate of return of the circulation after blanching, improvement in the colour of the extremity, and increase in the temperature of the part. It is a matter

of constant observation that a foot formerly colder than its fellow is made permanently warmer by vein ligation.

Case 1. M.—male, aged 48, diabetic, admitted with dry gangrene of great toe of right side, with slight infection at the base of the gangrenous portion. Appropriate local and general measures were adopted in an endeavour to localise the condition and convert the slightly septic process into a completely aseptic process. In spite of all care, the sepsis spread up towards the ankle, and incisions made to let out pus showed dusky coloration of the tissues beneath the skin—harbingers of spreading gangrene. At this stage the patient's general condition was very bad: he was running a high temperature, his tongue was dry, and plenty of acetone bodies were present in the urine. Locally, the foot was cold to the touch, and pulsations of the dorsalis pedis artery were absent. Amputation, which had been suggested previously, having been refused, ligation of the femoral vein under local anæsthesia was performed as an emergency measure. Intravenous saline with glucose and insulin was found necessary to relieve the dehydrated condition of the patient after the operation.

The patient showed improvement from the next day after the operation; the temperature slowly came to the normal, and although the gangrenous toe had to be removed, the dusky portions above it regained their normal color and healed up satisfactorily. The patient was discharged from hospital with the loss of only the great toe.

Case 2. J.—aged 50, diabetic, male, admitted with gangrene of the little toe of the right side, and commencing gangrene of the fourth toe of the same side. Dorsalis pedis artery pulsations absent and foot cold to the touch. Ligature of the femoral vein was performed within a week of admission, and patient was discharged from the wards with the loss of only two toes.

Case 3. P.—female, aged 65, non-diabetic, admitted with gangrene of left foot up to tarso-metatarsal junction. Amputation was refused. Patient complained of great pain in the limb, and after some time bullæ were found on the front of the ankle, showing that gangrene was spreading.

Ligature of the femoral vein was done at this stage with the result that the pain subsided, the foot became warm to the touch up to the completely gangrenous portion, a line of demarcation became evident, and the blister when opened showed not a dusky coloration but normal skin; patient refused to stay longer in hospital and was discharged.

In cases of senile and diabetic gangrene, although occasionally the gangrene might be localised and the affected toe might separate naturally and drop off, more often the condition spreads, and the usual refuge is amputation at the lower third of the thigh, as any lower site will mean sloughing of the skin-flaps due to the poor blood supply, and need for a re-amputation. The cases reported above show that even when gangrene has a tendency to spread, vein ligation, by increasing the circulatory efficiency of the part, helps to avoid leg amputation, and where amputations are unavoidable, as when gangrene is far advanced, as in Case 3 cited above, it helps towards a leg amputation at a lower site, and also, because of the resulting better circulation, towards quicker recovery and better healing.

It must be remembered, however, that vein ligation must be accompanied by the usual local and general measures, and minor operative procedures, such as removal of gangrenous toes and incisions for evacuation of pus, must be performed wherever necessary.

The only contraindication to vein ligation is the presence of an efficient collateral circulation, as the increase of intravascular pressure consequent on it causes imbalance of circulation and œdema. In all arteriosclerotic conditions, with diabetes or without, where there is always insufficient collateral circulation, vein ligation is not contraindicated. This simple and easy operation which could be done under local anaesthesia, must be useful as a preliminary procedure in all such cases, irrespective of the extent of the gangrene and the nature of the further operations necessary; and, if used as a routine, it should help a great deal towards the saving of a large number of limbs which are being needlessly sacrificed at present.

THE NEED FOR A NATIONAL ANTI-CANCER CAMPAIGN IN INDIA

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On going through the published Proceedings of the Fourth International Congress of Radiology, held at Zurich, Switzerland, in July last, one is struck by the painful fact that among those who described the anti-cancer campaigns in several countries none was from India. About twenty-seven countries, through their accredited representatives, narrated the steps they had taken and were taking in order to control the ravages of the common foe, cancer. Among these countries were the United States of America, Great Britain, the Irish Free State, Sweden, Norway, Denmark, France, Germany, Czechoslovakia, Yugoslavia, Austria, Hungary, Holland, Belgium, Spain, Portugal, Italy, Greece, Switzerland, Poland, Soviet Russia, Australia, New Zealand, Egypt, Persia, Tartar Republic, and Japan. In this galaxy of nations, India was conspicuous by her silence, though there were a handful of delegates from this country. It may be that there is no anti-cancer campaign worth the name in this country, or it may be that the delegates were shy to expose their own deficiencies before others. Any way, the impression is bound to prevail that India is not pulling her weight in the fight against cancer which all other countries are waging.

The reasons for this deplorable state of affairs are not far to seek. The helm of medical and public health administration in this country is in the hands of persons who apparently have very little permanent interest in the welfare of the general population and who remain here for comparatively short periods. The State has not particularly interested itself in the Cancer Problem, probably because there are apparently more important matters claiming primary attention. The people in general are also in part to be blamed: they bear bodily illness with resignation under the notion that it is a retribution for their past sins — *Karma!* — not remembering that much may be done by their own efforts. The organisation that goes by the name *British Empire Cancer Campaign Society* does not think it worth its while to launch a cancer campaign in India. Private organisations here are usually unable to tackle the huge problem of cancer, unlike in other

countries, and it would be unreasonable to expect them to do so when it is remembered that India is a very poor country. The cancer patient is considered to be a foul individual, shunned by others in his house, and not too well looked after in hospitals. Forsaken by God and man, the plight of the individual afflicted with cancer is very miserable, and opium often puts the finishing touch on a life of agony patiently borne. Yet, human nature can not steel itself to such an extent as to be unmoved by the heavy toll of life that cancer levies all the world over, and it is but right that scientific minds should be set thinking in order to control the onslaughts of this dread disease.

WHAT OTHER COUNTRIES ARE DOING

When one recapitulates what other countries are doing to combat cancer, one is astounded by the complete lack of similar efforts in this country. The measures adopted in some western countries are briefly narrated here in order to bring home the stupendous task which confronts those engaged in a cancer campaign.

Sweden has the most efficient machinery for controlling cancer. It was in 1910 that the Swedish Anti-Cancer Society was formed, which busied itself with cancer research and the collection of cancer statistics. In the same year the Radiumhemmet, or the Radium Home, was set up as a small private clinic for the radiotherapy of cancer. About the same time the Stockholm Anti-Cancer Society was formed, which a year later took over the running of the Radiumhemmet and developed radiotherapeutic activities. The Radiumhemmet has over five grammes radium element, the most modern roentgen-ray apparatus, and provision for over 70 beds. The Swedish State, the local bodies, the Stockholm Anti-Cancer Society and others have contributed very liberally to the funds of the Radiumhemmet. In 1928 a national collection was made in commemoration of King Gustav V's 70th birthday, amounting to five million Swedish crowns, and this amount was presented by the King to the country for furthering the anti-cancer campaign by the establishment of three central radiotherapeutic clinics at Stockholm, Lund, and Gothenburg respectively, The Radiumhemmet has a Director, who is also Chief of the General Clinic with its outpatient and inpatient departments, gynaecological department, pathological department, physical department (for the control of the technique of X-rays and radium and for the control and improvement of technique

of protective measures), department for follow-up and statistics, social service department, and others. The Government of the country pays the travelling allowances of pauper patients to and from the Radiumhemmet, and also to and from the central radiotherapeutic clinics. These central clinics serve as general radiotherapeutic wards and as out-patient departments for the hospitals in the locality and have between them about 9 grammes of radium. Many of the general hospitals of the country are equipped with radiodiagnostic and radiotherapeutic plants under the charge of specially trained radiologists. The surgical treatment of cancer cases is carried on in the surgical departments of general hospitals. Popular and professional instruction concerning cancer forms a large part of anti-cancer propaganda. Professor Gosta Forssell is the guiding spirit of the campaign in Sweden.

In the United States of America the cancer campaign is conducted on a larger scale, and the high standard of literacy of the general population has been an immensely helpful factor in the successful conduct of the campaign. The Memorial Hospital of New York, under the guidance of the pathologist, James Ewing, affords the maximum facilities for the investigation and treatment of cancer, where the patients have the benefit of the experiences of pathologists, surgeons, radiologists and other scientists. The American Medical Association has been energetically doing anti-cancer propaganda over the radio, reaching the average man in the street in easily intelligible language. Most of the state medical societies have commissions on cancer, whose duty is to acquaint medical as well as lay audiences with the facts regarding cancer, how to avoid it and how to get rid of it. The American College of Surgeons is another body which has helped to establish efficient cancer clinics, usually associated with general hospitals, all over the country with adequate apparatus and personnel for the scientific treatment of cancer; every year this College meets in conference and a symposium on "Cancer is curable" is held, when the participants describe their results in curing cancer and impress fellow medical men with the need for early diagnosis and systematic treatment of cancer. Among the other organisations engaged in the same campaign are the American Association for Cancer Research, the American Society for the Control of Cancer, the American Association for the Study of Neoplastic Diseases, the Crocker Foundation of New York, besides several others. Representatives of these carry the message of cancer education and cancer prophylaxis throughout the length and breadth of the country by lectures and demonstrations, through the press and platform, and by other agencies. These

measures have caused a perceptible diminution in the mortality from cancer during the last few years. Though much has been done in the United States to lessen the havoc wrought by cancer, a great deal remains yet to be done.

France, the adopted home of the late Madame Curie, has the Radium Institute which emerged with all its departments after the Great War. The radiotherapeutic department has on its staff Regaud, Lacassagne, Coutard, and other illustrious radiologists besides pathologists, hæmatologists, etc., all of whom collaborate whenever necessary. There is also a Cancer Institute in Paris, which, like the Radium Institute, is attached to the Paris University, with facilities for research and treatment. At the other French Universities and the larger towns anti-cancer clinics have been established, and the State has made liberal grants of money for the up-keep of these clinics. Besides these, education on cancer is going on apace in all the centres of anti-cancer work.

Great Britain has an organisation called the British Empire Cancer Campaign Society which co-ordinates the anti-cancer measures in some select regions of the British Empire, though professing to cover the whole of the Empire. This Society encourages and interests itself in both research and treatment. Intensive work on cancer is carried on in some of the British Hospitals, such as Middlesex Hospital, the Royal Free Cancer Hospital, and Mount Vernon Hospital, to name only a few. It will be remembered that the five-gramme radium "bomb" was on trial at London for some time before it was temporarily given up and resumed after the loan of some more radium from the Radiumbelge of Brussels, the investigating body being designated the Commission on Radium Beam Therapy Research.

Germany has a Central Committee for the Investigation and Treatment of Cancer, founded in 1900, which in 1930 was renamed the Committee for the Fight against Cancer, whose special task is to organise anti-cancer measures throughout the Reich. There are eight centres for the diagnosis and treatment of cancer, and four of these have one gramme of radium between them, besides modern radiotherapeutic apparatus. There is a tendency noticeable in Germany to use X-rays far more frequently than radium and the results compare favourably with those elsewhere. Radiotherapy is not centralised as in Sweden.

Belgium has organised an intensive campaign against cancer after the War with four cancer institutes at Brussels, Louvain (which is the biggest and under the direction of Prof. J. Maisin), Ghent, and Liege, associated with the respective Universities, where treatment and research are more or less centralised. All these institutes are supported by government grants. The National Cancer Commission is a government body of specialists which subsidises the anti-cancer work and collects statistics on end-results. The National Foundation for Cancer Studies is occupied particularly with the radium therapy of cancer in the various centres. Anti-cancer leagues are responsible for cancer propaganda and for the after-care of cancer patients. Belgium has a total of 32 grammes of radium in use at these centres.

Austria has centralised her cancer treatment in most of the university clinics of Vienna, which are all well equipped with radiological apparatus and trained specialists. The Holzknecht Institute is one of the biggest in Austria, and is situated in the third block of the General Hospital of Vienna. This Institute has four diagnostic X-ray plants, six therapeutic plants, and physical and biological laboratories attached. In addition, each of the surgical, medical, and women's clinics have their own roentgen departments. About 1,300 milligrammes of radium in small containers supply the needs of the various clinics, while there is yet another 5 gramme radium bomb at the Radium Institute of Vienna, founded in 1930 on the model of the Radiumhemmet of Stockholm. All these are liberally financed by the State. The other general hospitals and clinics in Austria have separate radiological departments of their own. The Austrian Society for the Investigation and Treatment of Cancer, founded in 1911, is the central organisation which is in charge of the cancer campaign in general, and the dissemination of knowledge about cancer in particular.

Japan, a typical eastern country, is not behind the other nations in conducting a cancer campaign. In 1907 was started the Japanese Society of Cancer Research, which blossomed out into the Japanese Foundation for Cancer Research in 1933, with headquarters at Tokyo. The Laboratories of the Foundation include a division of pathology and a division of Chemistry. The Hospital of the Foundation has divisions of medicine, surgery, gynæcology and radiology, and has provision for about 30 beds. The Foundation also carries on propaganda against cancer by means of demonstrations and pamphlets, with the active co-operation of the State.

WHAT INDIA IS DOING

Compared with what is being done elsewhere, as narrated above, the position in India is not very happy. The State is indifferent and the people apathetic, and under these conditions the medical profession cannot by itself be expected to do any tangible work. The general hospitals in the provincial capitals are scantily equipped for the radiotherapy of cancer, and what little is being done is done in a slip-shod manner. There is no systematic scheme of follow-up and so it is difficult to compile any reliable statistics in order to ascertain the incidence and the results of treatment of cancer. The medical officers in state employ usually do not evince the requisite degree of enthusiasm in the treatment of cancer, probably because most of the patients that seek treatment are far too advanced for any therapeutic measures at their command. There are no proper facilities for training in the radiotherapy of cancer, and the few radiological institutes under government control levy very high fees for such instruction. The X-ray Institute of Dehra Dun and the Radium Institute of Ranchi have been disbanded long ago on the plea of retrenchment. Some of the missionary hospitals use small quantities of radium whenever they are so inclined. There is no anti-cancer propaganda worth the name. In Madras city, there are only two institutions equipped for the radiotherapy of cancer, one under the government, the other private, the surgical treatment of these cancer cases being left to the surgical departments of the general hospitals. *Now that funds are being collected to commemorate the Silver Jubilee of Their Majesties' reign, is it too much to hope that a part of the money be set apart for an intensive anti-cancer campaign throughout India and for improving the facilities for cancer therapy?*

INTERNATIONAL BODIES IN THE ANTI-CANCER CAMPAIGN

There are a few International Organisations engaged in the study of cancer so as to enable workers of different countries sharing their experiences with one another for the benefit of humanity as a whole. The International Congress of Radiology is one such, which meets every three years. The first meeting was held at London in 1925, and the subsequent ones at Stockholm, Paris and Zurich. The next Congress is to be held at Chicago in 1937. At the commencement of these Congresses various speakers narrate the progress of anti-cancer campaigns in their respective countries. Another International body interested in cancer is the Health Organisation of the League of Nations, which frequently appoints committees to study and

report on cancer problems. They have recently appointed a Commission of specialists to investigate on the radiation treatment of cancer of the uterus and to produce statistics of survival rates for five years or more after treatment. There is another organisation called the International Cancer Congress which meets periodically for the exchange of information regarding cancer and its control.

THE CANCER PROBLEM

In countries where a successful and efficient anti-cancer campaign has been launched, there are active anti-cancer associations or leagues, which co-operate in the organisation of medical care of cancer patients, support research on, and treatment of, cancer, direct anti-cancer propaganda, and provide for the after-care of cancer patients. It is through the medium of these anti-cancer associations that all the resources of Society are prompted to collaborate in the fight against cancer.

The cancer problem has three well-recognised phases—cancer treatment, cancer education, and cancer research. Cancer treatment involves early diagnosis, which is by no means easy, and implies the prompt and expert application of the well-established methods of therapy. Cancer education imparts that knowledge about cancer to the patient as to when to resort to treatment, and to the medical practitioner as to what treatment to adopt in each particular case. Research on cancer represents mankind's hopes for the future and humanity's efforts to minimise the appalling loss of human life.

Early diagnosis of cancer is one of the most difficult things in medical science, but once it is done, treatment becomes a comparatively easy affair. Cancer is not recognised early by the medical profession, and never will be recognised early until the medical man learns that there are no characteristic signs and symptoms of early cancer. In other words, cancer in the very earliest stage, when treatment gives the best results, is a symptomless disease without any pathognomonic signs of its presence in any organ or tissue. It may exist unsuspected in any of the viscera for fairly long periods, without causing any disturbance of function or alteration in structure. It is only in its late and hopeless stages that cancer exhibits the well-known symptoms of pain, ulceration, discharges, cachexia, etc., which are not merely the symptoms of cancer, but also evidences of impending death. An early detection of cancer also involves a consideration of its relationship to other morbid conditions, and on this the question of prevention of cancer

partly rests. Prevention of cancer is, however, not on firm ground as the exact cause of the disease is so far unknown. The only prevention consists possibly in removing those conditions which have been observed to predispose to it. Avoidance of chronic irritation, removal of pre-cancerous conditions, frequent and periodical health examination of those over forty years of age, and the avoidance of propagation in families with a history of cancer on the presumption of hereditary transmission of cancer, are some of the measures advocated which have resulted in saving a few human lives. Early diagnosis naturally goes hand in hand with the early institution of treatment, and only these two will serve to reduce the death rate from cancer appreciably.

The methods that have proved efficacious in the treatment and cure of cancer are surgery (more recently electro-surgery), X-ray therapy, and radium therapy, together with adequate medical care. These methods come under the field of several specialists, who should all be pressed into service to work as a team towards the correct diagnosis and proper treatment of cancer. The cancer patient's interests are best served when there is hearty co-operation between the general practitioner, the surgeon, the pathologist, and the radiologist without any one arrogating supremacy to his special field.

The general practitioner is usually the man whom the cancer patient first consults, and it is the general practitioner who should give his patient the correct advice regarding the treatment. But the general practitioner often lacks the means for carrying out the necessary diagnostic measures. When he successfully diagnoses the condition, it often happens, the disease is in far too advanced a state for the institution of satisfactory treatment. Physicians sometimes assure patients that they are not suffering from cancer, without having utilized the available facilities for determining the nature of a sore or of a lump in any part of the body. In the interests of the cancer patient, he should resort to the specialist most qualified to give whatever advice or treatment the patient might require, and that without undue delay.

The pathologist plays an important role in the diagnosis and treatment of cancer. He is able to study frozen sections from the cancerous growth and his findings are helpful in deciding whether surgery or iradiation, or both, should be the treatment to be adopted in a particular case, and in watching the progress of the case under treatment. It is conceded on all

hands that biopsy should be the rule not only in suspected cancer but in all cases of apparently simple chronic inflammatory lesions and in obstetrical injuries. It was once thought that biopsy helps to disseminate cancer cells, but this risk has been eliminated by the "cautery punch," which is used for removal of tissue in all modern institutions. The histological grading of tumours and some of the factors that determine radio-sensitiveness and radio-resistance of tumours come under the purview of the pathologist.

The surgeon comes into the scene when the diagnosis of cancer is firmly established. The surgical removal of operable tumours is still one of the chief methods in the treatment of cancer. The scope of surgery in the treatment of cancer is, however, rather limited to only about one-third of all the cases that seek advice. Of those operated upon, about a third can be cured of their diseases, and the rest require some other form of treatment than surgery. Cancer can be eradicated by surgery only when it is local, and cancer is local only in the very early stages. But when the disease has been allowed to disseminate all over the body, surgery and radiation are at best palliative only.

The radiologist gives the cancer patients a considerable amount of relief from distress and pain, especially in inoperable cases and in those for whom surgery cannot offer permanent cure. Radiotherapy with radium or X-rays sometimes gives results superior to those by surgery. For efficient radiotherapy the patient should be in the charge of a competent radiologist who should also be a clinician and should undertake complete responsibility for the radiological treatment. The present tendency is for the radiologist not to attempt radiation therapy for which surgery is better able to help, and for the surgeon to recognise that certain kinds of new growths are better amenable to radiation treatment. Radiotherapy should be administered in well-equipped and well organised radiological institutes.

ESSENTAILS OF AN ANTI-CANCER CAMPAIGN

In formulating and conducting a campaign for the control of cancer, one should take into consideration the important fact that Society as a whole should co-operate in an intelligent manner. Anti-cancer associations should include both medical and lay men, and these associations would then be best fitted to accomplish the task more usefully. At least three forms of activity should be undertaken, namely, organisation for treatment, education of medical men, and education of the general public regarding cancer.

The organisation of several centres for the treatment of cancer in this country is of prime importance. Cancer clinics should be opened at all general hospitals, and the facilities for diagnosis and treatment afforded therein should be fully availed of by all medical men. There should be a thorough examination and diagnosis of patients followed by prompt administration of treatment. Many of the surgeons perform the surgical part of the treatment very well indeed, but the radiotherapeutic aspect is not as one would desire. There should be adequate radium and X-ray equipment, at least in the larger centres of population, and only qualified and experienced radiologists should be put in charge of such treatment. The radiotherapeutic care of cancer patients should be as well organised, if not better, as the surgical care, and the radiotherapist should be as much a medical man as any other individual entrusted with the treatment of patients. The collaboration of other members of the hospital staff will be immensely useful in what should be a group attack on cancer. Accurate case records must be maintained, and the history, earliest symptoms and signs, and the treatment should be recorded with care; any details of progress and after-history for at least five years after treatment should also find a place in the records, so as to be useful in the compilation of statistics. Opportunities of performing autopsies should be taken advantage of. Every case of cancer should be treated systematically, as even palliative measures give great relief when the symptoms are distressing. Homes for the incurables should be established at the larger centres. The anti-cancer associations would be useful in financing or otherwise rendering assistance to these cancer clinics, in which the state and other public bodies could also play an important part. The present-day tendency is to centralise cancer treatment, particularly radiotherapy, at a few places, in view of the high cost of the equipment necessary.

Education of medical men to enable them to recognise cancer in its incipient stages is necessary if any progress is to be made in the control of the disease. Medical students should be taught the fundamentals of the cancer problem. Post-graduate courses on cancer and radiotherapy should be provided for those seeking it. The medical practitioners should have sufficient training to know the indications for surgery and irradiation, and to advise their patients accordingly. They should be taught to be always on the alert for the earliest manifestations of cancer. The medical associations should organise scientific lectures and symposia on cancer in its various aspects, with proper emphasis on its early diagnosis. Medical men

should be encouraged to report their experiences in the successful treatment of cancer, so that the profession might be impelled to work for better results. Above all, medical men should be taught to bestow more interest and sympathy on cancer cases and to instil courage and hope into the patients, on whom life often hangs heavily.

Education of the lay public concerning cancer ensures their co-ooperation in an anti-cancer campaign. The public should be educated to seek expert medical aid as soon as they notice any continually growing tumour, or any ulcer which does not heal, or any other bodily inconvenience however slight it might be. They should be made to realise that delay is dangerous in these cases, as in other diseases. All the relevant information about cancer should be dinned into their ears frequently and persistently, and they should be encouraged to demand and make use of facilities for periodic examination. But care should be taken not to scare them away or frighten them. Cancer-phobia should be avoided. All the agencies of publicity should be utilised—the press, platform, pamphlets, demonstrations, radio, and so forth—to disseminate knowledge regarding the value of periodical routine health examinations, and to dispel the almost universal belief that a diagnosis of cancer carries with it a sentence of death. The educative campaign should not scare people to death but should swerve them into life. In this endeavour the anti-cancer associations should, in the inimitable words of Forssell, "act as pilots to guide the embarkation of the cancer patients, laden with despair, from the uncertain region of private help to the peaceful port of the general hospital; the rays of Roentgen and Becquerel are the lighthouses which will guide them."

A word about cancer research will not be out of place. Investigation on the aetiology and biology of cancer has been, and is, going on in several countries, but the exact cause of the condition has so far eluded the most acute scientific minds. Several so-called *cures* for cancer have been brought out by several workers but none have been proved to be the absolute cure. An anti-cancer serum has been the aim of some workers but no therapeutic results have been obtained from work in that direction. Things which elude one's grasp are sought for with greater vigour and enthusiasm. That the cause of cancer is unknown should not be an excuse for slackness or indifference in instituting a campaign for a systematic and scientific application of present day treatment. On the other hand, there is no certainty that the battle against cancer would be won if the specific cause of cancer were

identified. It is not, however, a forlorn hope that the discovery of the cause of cancer might lead to the prevention of cancer and thus avoid immense human suffering and loss of valuable lives.

RADIOLOGISTS AND THEIR ORGANISATION

As a radiologist, may I take the liberty of offering some suggestions to my co-radiologists in India. Radiology in India is still in its infancy, and this infant is in a state of marasmus. There is an Indian Radiological Association with Headquarters at Calcutta which meets, if at all, once a year. It would be more useful to radiologists if provincial branches of this Association were started. It would also be advisable to start a journal under the fostering care of the Association, so as to co-ordinate the activities of the provincial branches and to give expression to the thoughts of the radiologists that seek refuge under its sheltering wings. Annual conferences of the Association should be the rule and scientific papers and discussions regarding the science and art of radiology should form a prominent feature of such conferences. An active and progressive association of this nature would not only raise the status of radiology as a speciality of medical science but would help to bring up in the profession better qualified and more scientific radiologists who can hold their own in the company of radiologists of more advanced countries. It is then that radiology in this country would become a useful hand-maid of the medical sciences and a helpful camp-follower in the march for the conquest of disease. It is then that radiologists can hope to be in the vanguard of a comprehensive anti-cancer campaign, and show by results that their methods alleviate suffering as much as others. Professor Schinz, the President of the Fourth International Congress of Radiology held last July in Zurich, has rightly said, "Means and materials are not enough; above all, men of inspiration and men of courage are needed, men through whom Institutions receive their life. It is the man, not the machine, that counts."

[I have to thank my associate, Dr. K. R. C. Hebbar, for assistance in preparing this paper].

THE
ALL-INDIA OPHTHALMOLOGICAL SOCIETY

FOURTH CONFERENCE

Madras, April 22—24, 1935.

WELCOME ADDRESS

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CHAIRMAN, RECEPTION COMMITTEE

Gentlemen,

I feel very proud indeed and highly honoured in being entrusted this day with the most pleasant duty of extending to you all a warm welcome to the fourth session of the All-India Ophthalmological Society. Apart from the scientific treat you will enjoy and contribute to, I hope you will enjoy your short stay in this city. Madras, though it is the third city in India in the matter of population, is yet the first and largest in area extending as it does over twenty-seven square miles. Our beach which we call the Marina is I am told the second best in the world, and the Aquarium on the Marina is the only one of its kind in the country. We can boast of only two seasons, a hot season of three months and a hotter one of nine months. I am afraid you have been enticed here in the hotter portion of the year. Yet I assure you if you adopt a point of view high enough, like the one from the search-light tower over our High Court, you will find the city quite charming with its ample greenery, magnificent buildings, innumerable bungalows with large compounds, vast open spaces, two tiny rivers, one of them enclosing a large island, and at a short distance the St. Thomas' Mount with a beautiful church on its top.

Madras, like its sister cities of Bombay and Calcutta, is a very modern one and has no history to boast of. Until 1639 the area of the present city was composed of insignificant though peaceful hamlets, whose names are still retained by the divisions of the city into which they have grown up. They were all under the kingdom of Vijayanagaram. In 1639 the East India Company obtained a grant of land, over which the present structure of the Fort St. George stands, from the last representative of the decaying

kingdom through a Naicker, Chinnapa by name, in whose honour the place was called Chinnappa Patanam, now corrupted into Chennapatanam. But for the two years when the French ruled in Madras, the town has been always under the British after 1639.

It will not be out of place here to trace the growth of medical institutions in the town. In 1744 a granary on the present site of the Government General Hospital was first converted into a Naval Hospital. Subsequently, an adjoining warehouse was made into a Garrison Hospital. Later on the two buildings were transformed into a general hospital for Sailors, Soldiers, and European and Anglo-Indian civilians only. "Natives", the untouchables of the times, were admitted into adjoining structures. The Hospital was enlarged in 1859, and in 1879 wards for women and children were added. It was only as late as 1899 that the eastern portion of the present building was handed over to Civil Authorities and for the first time it became a purely Civil Hospital.

This is the oldest medical institution. The next in age is the Government Ophthalmic Hospital. It was founded in 1819 as an Eye Infirmary in a house in Royapettah, and was soon transferred to a place in Vepery. It came to its present spacious and beautiful site in 1886 and took on the grander name of Government Ophthalmic Hospital in 1888. About fifteen years ago was opened its famous portion, the Elliot School of Ophthalmology.

Madras has made two great contributions to Ophthalmology. One a Surgeon and the other an eye disease. Elliot, whose vast contributions on the fell disease Glaucoma can be said to be the last word on it, is the Surgeon. His fame is international and he is well-known both to the public and to the profession. The disease for which Madras has become famous is the Madras Eye, otherwise known as Superficial Punctate Keratitis. The poverty and consequent defective diet of the lower classes of the Presidency leads to a lot of deficiency diseases and it is but apt that the Madras Session of the Society has chosen mainly to discuss these.

I shall not encroach upon the field of the President or the members reading papers by dealing with any scientific problems of Ophthalmology. Taking for my text the last sentence of the report of the Society on page 200 of the third volume of its Proceedings, I shall most respectfully place before you my ideas for the making in this country of Ophthalmologists of high standard, and thereby hope to provoke thought amongst you on

this all important subject. It is with this object in view that I have given you a brief sketch of the origin and growth of the two premier medical institutions in the presidency, and as medical institutions in your parts of the country also must have begun and developed on almost the same lines, my remarks here, though I shall be referring to local institutions by name for convenience, should be taken as intended to apply to medical institutions in general throughout the country.

The sentence referred to runs as follows "It is hoped that all ophthalmic surgeons, practising in India, will join as members and help to bring the Society to the same level as the Societies of other countries." It is an indirect admission of the fact that this Society is much lower in level than similar Societies in other countries. To my mind the remedy for raising the level lies not in merely increasing the number on the rolls of the Society, but in helping to produce well trained and enthusiastic Ophthalmologists. This can be secured firstly by creating more opportunities for a sound training of ophthalmologists and radically improving the methods of such training, and secondly by giving ophthalmologists so trained adequate opportunities and befitting status so as to encourage them to take a lively interest in the growth of the science.

Taking them in order, the lack of opportunities and the defective methods of training of Ophthalmologists in this country will be apparent if we compare any Presidency Eye Hospital with the parent institution, the Royal London Ophthalmic Hospital, which is better known as the Moorfields Hospital. Our local eye hospital for instance was founded, as I stated above, in 1819, fourteen years after the Moorfields Hospital. The capacity for the in-patients is officially stated to be 170, though the actual number of in-patients on an average is about 225. This is much larger than the in-patient capacity of Moorfields, as the area served by the local hospital has always been larger than that served by Moorfields. One may take it for granted that the local hospital's capacity must have always been higher than that of the Moorfields. And yet the number of first rate Ophthalmologists produced by each of the two institutions can by no means bear comparison. Whilst the fresh graduates starting in the lowest grade of appointment on the staff of the London institution are offered such training and opportunities as to raise them to the highest appointments in that or similar institutions, the lower subordinates in the local institution have almost invariably remained permanently in subordinate positions. The number of higher appointments in the local and bigger institution has practically been only one, while such

appointments in the small London institution have been many. The number of post-graduates turned out and the amount of training given by each institution bear the same disproportion.

To remove any misunderstanding, I have to repeat here that though I am taking the local hospital to illustrate my point, my remarks apply equally well to all hospitals in India, and that my complaint is against the system of administration and not against individuals that have been in charge of these institutions from time to time.

To attain the objects of the Society the system of staffing eye hospitals must be thoroughly remodelled for the training of sound ophthalmologists. Special hospitals of the magnitude of the Presidency Eye Hospitals must expect to be judged not merely by the number of cases treated but by the number of soundly trained workers turned out. The best way to do it is not to take in all the post-graduates that apply for admission, but to throw open all the appointments right up to that of the R. M. O. to the temporary House Surgeons, who can be reappointed and promoted on their merits as in the Moorfields Hospital. You will all agree with me that a House Surgeon gets far more opportunities than a mere post-graduate for acquiring a deep insight into the management of cases, for making a more detailed study thereof, for making original observations on the condition and progress of cases, and above all for gaining confidence in his powers of observation and ability to face emergencies. On the other hand, most of the subordinate staff as is at present found in these hospitals not only never progress to the status of first class ophthalmologists, but prove a positive hindrance to the full development of post-graduates. Graduates to be employed as House Surgeons should have preferably done House Surgeoncy in medical and surgical departments previously, and they should volunteer for eye work and not be posted there with or without their desire by some high officials. Having thus planted the seeds, preparation for expansion and future full growth of the plants must be made by creating more room at the top. The system of keeping these large institutions as one man's show should be replaced by one which will allow as many ophthalmologists as might be reasonably thought necessary for the population served, to find a place on the staff. Science is not concerned with the problem whether these should be honoraries or stipendaries and if the latter whether they should be recruited from the Imperial or Provincial service. I shall not enter here into that question. But in order that there should be freedom and equality of opportunities for original work and to facilitate their hearty

collaboration, the status of all on the staff of the hospital, apart from and in spite of their drawing salaries or not, should be absolutely equal. The title of 'Superintendent' should be relegated to a head clerk, as in English Hospitals. This head clerk should administer the hospital under the instructions of the medical faculty of the hospital composed of all the principal ophthalmologists on the staff.

From the information I have given you of the origin and growth of the general hospital in Madras you will see that this Hospital began its work as a Naval and Military Hospital and that the present top heavy and undemocratic system of staffing Hospitals in this country is merely due to the military origin of these institutions, and though they have now assumed the name Civil Hospitals, the principal medical advisers to Provincial Governments still being military men, they have not yet adopted a real civil or democratic system in their staffing.

If these Hospitals are staffed on the lines I have indicated it will greatly facilitate the introduction of proper academic courses for post-graduates as in the London institutions. The Government of India is showing great concern in raising the standard of medical education to the level obtaining in Great Britain as is seen by the creation of an All-India Medical Council and its committee for the inspection of the teaching institutions. This Society desires to raise its own status to the same level as that occupied by similar one's in other countries. The one method by which that object could be attained is by the training in this country of first rate Ophthalmologists and by utilising their services in the state hospitals. I think it is our duty as good citizens and enthusiastic ophthalmologists to place our views before the Government and I feel sure of their sympathetic response especially as we have the honour of having amongst us several ophthalmologists of repute who command great influence in Government circles.

OPENING SPEECH

SIR MAHOMED USMAN, B.A., K.C.I.E.,

Formerly Home Member of the Executive Council and Sometime Acting Governor of Madras.

I was greatly interested and pleased on receiving the invitation to officiate at the opening of this the Fourth Conference of the All-India Ophthalmological Society. I must confess that I was ignorant of the fact

that the opthalmologists of India had established this excellent method of exchanging scientific views. It is fully admitted that direct contacts such as are made possible at the great scientific congresses of the world, do more to forward the cause of the particular science concerned than perhaps any other method. Although I did not come directly in contact with medicine in my capacity as Home Member, I am thoroughly familiar with the numerous activities of your profession and I realise how important it is for this province and the whole of India to encourage the exchange of ideas and promote useful discussion, more particularly in the highly specialised branches of your science such as the one you represent. It gives me great pleasure, therefore, to see you here to-day knowing that this session represents a landmark in the progress of Ophthalmology in India. I am well aware that your speciality is an ancient one and, as a lay man, it would be unwise of me to touch upon its more technical aspects. Like other citizens of Madras, however, who have taken an interest in those things which pertain to the general welfare of the people, both in the city and in the districts, I appreciate the part which Ophthalmology has played, and is destined to play here. You are probably all aware that it was here in Madras that the third eye infirmary in the British Empire was established in 1819. Since that time great strides have been made, and now, through the continued abours of those who staffed the institution, we have the present Government Ophthalmic Hospital, which may justly claim to be in many respects one of the finest of its kind in the Empire. I do not refer to its size or its appearance, for, possibly those of you who are familiar with the large and beautiful modern buildings both in India and elsewhere may have constructional faults to find. I refer rather to its tradition. For the last half century, the Government Ophthalmic Hospital has been the centre of active ophthalmological effort, and from it as centre, ophthalmic knowledge has gradually spread throughout the Presidency. This is largely the result of the excellent facilities for study which it has made available.

In addition to earning a name for itself in connection with ophthalmic relief, it gradually developed the more academic side of ophthalmic science, until, during the superintendency of Colonel Kirkpatrick, the School of Ophthalmology, which is called after his predecessor, was founded as an extra-mural part of the Medical College. This annexe to the hospital — The Elliot School — was opened just before Colonel Wright took over in 1920. As you will see for yourselves it has since that time been developed by the Superintendent and the staff along lines which make for easy assimilation

of ophthalmic knowledge by the student. Colonel Wright has fortunately been enabled to continue this work for a period equal to the combined superintendencies of his two predecessors. Not only is the undergraduate catered for, but also the post-graduate, both official and non-official, Indian and foreign. Facilities for post-graduate study were offered freely to Government doctors with the object of spreading ophthalmic aid and knowledge throughout the Presidency. In this way it was hoped not only to establish more generalised ophthalmic relief but also to disseminate information with regard to the prevention of blindness, an even more important measure. Unfortunately the slump very largely cramped efforts in this direction. Post-graduate study was also extended to unofficial doctors and a number of post-graduates from different parts of the world overseas came here to enlarge their experience, among others the sons of such distinguished British Ophthalmologists as Mr. Priestly Smith, and Mr. William Lang. Specialists now practising in the United States of America, Australia, New Zealand, Malaya, Siam and other places have had part of their training here. During the more active academic development of the school in the past 25 years, unofficial ophthalmic specialists began to come into prominence and gradually assumed an important place in the sphere of eye work in this city and Presidency. They are still a relatively small body and all, but one or two, have received their early medical education in the Madras College. Most of them have not only gained experience in India but travelled west and obtained special qualifications overseas. A high percentage of these unofficial specialists are now serving Government in an honorary capacity and helping their official colleagues to keep up the standard of ophthalmic practice and teaching which is traditionally of a high order. I understand that it is largely through the efforts of some unofficial eye specialists of this Presidency that this important Society came into being. I congratulate those concerned who are present, and others from different parts of India in the same category, who have supported them. I think it augurs well for the future of Ophthalmology in India to see such a representative gathering here to-day both of Government medical officers and unofficial specialists meeting together in a friendly social atmosphere with the common object of discussing scientific problems, the solution of which is calculated to benefit the people of this country.

Ladies and Gentlemen, I thank you for the honour you have done me, and in declaring this session open, let me express the hope that you will experience much mutual benefit from your intercourse, and that Indian

Ophthalmology and that urgent problem, the prevention of blindness in India, will greatly benefit through your deliberations, and your subsequent activities.

PRESIDENTIAL ADDRESS

R. E. WRIGHT, B.A., M.D., C.I.E., LT. COL., I.M.S.,

Superintendent, Government Ophthalmic Hospital, Professor of Ophthalmology, Medical College, Madras, and Member, International Council of Ophthalmology.

Members of the All-India Ophthalmological Society, I wish to thank you for the honour you have done me in electing me President of this conference and of the Society until the next Conference takes place. I can only assure you in return for the compliment you have paid me that any help I can give to the cause of Indian Ophthalmology in general, or to the All-India Ophthalmological Society in particular, will be gladly given. I have been at the disposal of our energetic Joint Secretary, Dr. G. Zachariah of Madras, from the early days of the Society, and although I may not always have done those things which he thought I ought to have done, and may perhaps have left undone many things which I might have done for the Society in the past, I shall make a greater endeavour in the future to live up to the position with which you have entrusted me.

It would have been a source of satisfaction to me if the first Conference of this Society could have been held in Madras, for, as you probably know, it was here that the first eye clinic in the British Empire was established. Here, in Madras, the third Eye Infirmary in the English-speaking world was founded in 1819, a year before the foundation of the New York Eye and Ear Infirmary, while as yet an Independence Day had not dawned in America. The genesis of Ophthalmology in India as a special branch of western medicine quickly followed upon its origin in London. As you will see recorded beneath the photographs hanging in the entrance hall of the Elliot School, Saunders founded the first special hospital devoted to the treatment of diseases of the eye in 1804. From this parent institution, now known to all the world as Moorfields, sprung six other eye infirmaries in fairly rapid succession, at Exeter 1807, Madras 1819, New York 1820, Calcutta, Bombay and Boston 1824 in this order, started respectively by Adams, Richardson, Delafield and Rodgers, Jeafferson, Egerton, and Reynolds. It is but fitting therefore that our All-India Ophthalmological Society should

have had Madras as its birthplace. I know something about its accouchment, as the doctor in charge of the case, our worthy Joint Secretary, Dr. Zachariah, and his colleagues, called me in consultation. My opinion was not very favourable as to the chances of what I considered to be a premature child in the light of what had happened to its cousins, the ophthalmic societies of the Presidency cities and others. There were also little differences of opinion as to the begetting of the infant so that doubts arose about legitimacy. But eventually the doctor in charge and his colleagues, one amongst whom must not be forgotten, namely Dr. Kugelberg, decided to deliver the baby then and there, no matter what anybody thought. You will see what a bad midwife I am and what a fine healthy child of six years old your committee has reared.

It is to me a source of some astonishment and at the same time a matter for congratulation that the three conferences, which have already taken place, should have been so well attended. When one considers the enormous distances to be covered by rail and the expense thereof, some idea is obtained of the desire of the members of this Society to make these gatherings a success. I trust that our session in Madras will prove no less interesting and instructive both socially and scientifically than its predecessors. Before leaving the subject of our Society, I would like to take this opportunity of congratulating our immediate past President on the honour of Knighthood which has been bestowed upon him. You will agree with me that the Society has reason to be proud of the recognition of a well-known Indian Ophthalmologist. To sound a sadder note, our sympathy goes out to the relatives and friends of those members who have passed away since our last meeting. We are very conscious also of the great loss which Ophthalmology has sustained in the death of Mr. Mayou and Dr. Posey. Many of you no doubt have listened to, and benefited from, the teaching of the former, and some of us have had the privilege of knowing the latter.

Now, for a few moments, let me draw your attention to certain aspects of the work in which we are all engaged, Ophthalmology in Practice and Principle. I will not attempt to remind you of recent work in this field, but rather confine myself to features of Ophthalmology in India about which we can speak with the authority born of experience. With regard to Practice, all I would say centres round experience itself. Those of you who are young could not be in a better country for the accumulation of practical experience, and those of us who are older have had so much

experience in certain branches that we are sometimes inclined to behave as if experience were everything, which, of course, is stupid; it can only effect its great value when combined with careful consideration, rational deduction and sound judgement. The very vastness of the material on which our practice is founded has its disadvantages. The time absorbed in dealing with one aspect of it, i.e., treatment, seriously curtails the total time available for the study of other aspects, e.g., the more academic study of the minutiae of individual cases or the collection and compilation of academic records. Our experience, therefore, tends to be limited to certain aspects even of practice, namely, those aspects which give the greatest and most expeditious relief to the greatest number. We are largely in the position of collectors dealing with material in bulk who do what is necessary for the preservation of our specimens, making temporary observations and classifications in the hope of finding time later to work out the detail. Allowing for such limitation, the value of large experience, even if only partially digested, is infinitely greater than an extensive book knowledge embellished with the frills of detail, the importance of which is often out of perspective. This state of affairs will tend to disappear as ophthalmologists increase in number in this country, but in the meantime it affords us privileges which we must value and utilize to the fullest. As we gain experience we all probably develop fads and fancies in our practice, just as specialists do in other parts of the world, and ours are perhaps no better or no worse than theirs. We learn gradually, just as the experienced physician or surgeon, not to do harm if we cannot do good, and to give nature every chance, particularly in the young. We learn to be conservative and to think of the result on the patient of the wonderful operation towards which inexperience might propel us, and yet to be daring in the right circumstances. We sometimes learn to hold our hand at the right moment, a very difficult thing, and to hold our tongues when the less experienced are vocal—also difficult. In gaining this experience, we often think we have made a discovery and rush into print, only to realise that it is not new to an older generation, and that there is little really new in the field of our endeavours. Such lessons ought to teach us to respect the extensive literature on a subject which goes back to the Egyptian papyri and to search it as fully as possible, although this is one of our great difficulties in India where library facilities are poor. Gentlemen, you can get plenty of experience in India and what is more you can get it before you are too old to use it. Perhaps, the greatest fault of the young Indian post-graduate

specialising in eye disease is a self-assurance born of book knowledge and a special qualification founded thereon. The same is true, of course, elsewhere. They should bear in mind that the old hand, if sometimes hazy about the latest hypothesis supposed to explain certain phenomena, is familiar enough with the practical bearings of such phenomena in their relation to daily life. In so far then as the Practice of Ophthalmology is concerned, the specialist in India is in as good a position of attaining experience as the specialist elsewhere, in fact in a better position as regards certain conditions which are more commonplace here than in other parts of the world. I do not wish to be misunderstood and to appear to bolster up the idea that because some of us are privileged to deal with infinitely greater numbers of cases than certain of our colleagues elsewhere, that we have necessarily made the best use of that experience. It is not enough to see hundreds of cases or do hundreds of operations; as previously indicated, experience must be combined with intelligent observation to be of value. Automatic repetition of the same act or same observation does not place us on a higher level than the bricklayer. We have sometimes been reminded of this by hearing disparaging references to Indian cataract punchers. It is desirable to avoid speed unless it is of definite value. Edward Jackson somewhere indicates that it is better to do one operation slowly, deliberately, and with careful consideration of all the variants than a much greater number in the same time in slap-fashion: these are not his words, but this, I take it, is what he meant. I feel that he also meant it to be fair criticism of the arrogant assumption that mere repetition of action constitutes valuable experience.

With opportunities, such as we have, of gaining experience, and after careful consideration and comparative study of utilizing it to improve practice, it is our own fault if we do not achieve a degree of proficiency of a high order. For reasons which may be inferred from the above remarks, we have always avoided the glorification of cataract work in the Madras clinic, although, perhaps, we have utilized the opportunities offered to us no less than other institutions in India which deal with a vast amount of material. During my Superintendency, visiting ophthalmologists who came with the sole idea of getting experience in cataract operating have been discouraged. Unless their knowledge of ophthalmic principles was of such an order that it became a duty and a pleasure to help them to master this very limited field of human carpentry, their overtures were regarded as rather an insult to our intelligence. For, although good cataract work in bulk is still

extremely important to India, as I hope to show in a moment, it is infinitely more important that the academic centres of Ophthalmology in this country should not degenerate into factories for the repair of damaged eyes, to the neglect of the more academic side of our science associated with pathological and ætiological investigation, scientific and up-to-date refraction, and sound practical undergraduate and post-graduate education.

And, now, let me say a word about the *prevention of blindness.* I shall insert it in here between Practice and Principles, as it is not truly to be regarded as part of our practice, being largely a function of a Ministry of Health, if we had such a thing, but it hangs on a knowledge of the Principles of Ophthalmology. Our function is to put our knowledge at the disposal of the state in order to enable it to give effect to measures largely outside our province, to help to devise ways and means of educating the State and the Public, to keep on reminding those in both groups who are most likely to take notice, and to supply the scientific detail necessary for the campaign. I will not enlarge on the prevention of blindness even in outline here. I have done so on numerous occasions and in several publications. I would just like to mention one aspect of the problem. You will all find that it is much easier to arouse public sympathy and raise money for the care of a handful of people after they have become blind than to rouse the same enthusiasm or raise the same money in preventing ten times the number becoming blind. You all know why this should be so; there are many reasons, but in spite of the best of these reasons—the humane promptings of pity towards our fellows—the old saying is still true, prevention is better than cure. Having taken the liberty of dragging in prevention, which is really a major problem for the Department of Education, Health and Lands of the Central Government, inasmuch as all three divisions of this portfolio are directly concerned, let me now say a word on one aspect of the relief of blindness.

I have previously spoken of cataract operating in bulk, and disparaged its elevation as such to a prominent place in our specialty, but I do not want to under-rate its importance as a blind relief measure in India. This is rather a different proposition. Many a surgeon has been of value in the cause of blind relief because he has acquired skill in cataract operating without any real claim to being an ophthalmologist. I do not hold that such a person is ever as good, even as an exponent of blind relief, as an ophthalmologist with similar skill, nor do I believe that he can ever turn out the same quality of work, but the work he does is valuable in India under present conditions.

I suppose 50,000 would be a fair probable estimate of the number of cataract operations performed annually in India, which goes a long way to relieve the disability from this cause, even if we discount those cases already relieved in one eye. Figures, so called statistical figures, quoted in support of one aspect or another of the blind problem, are, however, almost useless except for propaganda purposes to influence public opinion. The Census returns for 1931 show that there were 601,370 persons blind in both eyes. If we assume, without any real justification other than guessing from our experience, that 50 per cent of these are blind of cataract, then we are relieving one-sixth of the blindness due to cataract every year, which is highly creditable in a country like India with relatively poor communications and a dense village population.

Rightly or wrongly, I gathered from reading the latter part of the address delivered by our immediate past President at the Third Conference in December 1933, that in India we were in rather a bad way as regards the more academic side of Ophthalmology. One got the impression that he felt grieved to think that we were so far dependent on the West for investigations into the solutions of our problems, that we were in the deplorable state of ranking as nonentities amongst the intellectuals of the ophthalmological world outside India. No doubt, he drew this somewhat gloomy picture in order to stimulate us to greater effort, but I know he will forgive me when I say that even at the present time I take a brighter view of our position. We cannot expect to bring the same auxillary forces to bear on the part of our science, which is closely bound up with the basic principles of medical science in general, as is done in the West; we simply have not got the machinery, the money, the organisation, the experience and the academic tradition which is behind their old medical schools. These are things which take time to grow, but I contend we are making progress in certain directions where the need of the background of the old established schools of Western science does not handicap us too heavily.

In so far as Indian Ophthalmology is concerned, I have tried to show that there is no reason for us to take a back seat in the Practice of our art, nor are we doing so, and I have just now hinted that the same is true to a more limited extent with regard to the study and elucidation of some of the basic phenomena which we regard as included under the heading of the Principles of Ophthalmology. Even if we are handicapped by the fact that the bulk of the basic scientific departments in our various seats of learning

are somewhat new and have yet to build up a background of experience and develop a tradition and a literature, this does not apply to at least one application of science to experimental medicine, namely, Bacteriology and Parasitology, a relatively modern development in which India started more or less level with other parts of the world. The institutions which deal with these and kindred subjects and which are available to most of us for research purposes have held their own with those in other parts of the world since their foundation and frequently given them a lead. The study of aetiology then, in so far as it is included within the scope of our great research laboratories, is going forward well abreast of the times. There is still plenty of opportunity for the ophthalmologist in India along these lines, so there is no need to feel envious of those research workers in other parts of the world because the foundations to which they have access facilitate endeavours in other directions. Indian Ophthalmologists, whose bent lies in such directions, can always find an outlet for their energies in seats of learning outside India strong in the particular branch which they wish to follow. However much the disciples of an old school or foundation may adopt a superior environmental attitude, they are always willing to share their advantages with the real scientific research worker. True research in medical science is incompatible with distinctions of nationalism, and Ophthalmology is as truly international as any branch of medicine.

Finally, I would say to you that in so far as research, in connection with those conditions which are most pertinent to India at present, is concerned, for example, conditions with a nutrititional, bacteriological, entomological or parasitological association, we can compete, and I hope are competing creditably, with our colleagues in other countries. If we lag behind we cannot lament that they are better equipped and have older establishments. In these particular fields our tradition is well nigh as old as theirs, and there is ample scope for our continued advance therein until, in the course of time, we receive the necessary quality of support from the various scientific departments of our schools and colleges, which is essential to ophthalmological research along other lines.

RURAL MEDICAL PRACTITIONERS'

FIFTH PROVINCIAL CONFERENCE

Bezwada, 20th April, 1935

PRESIDENTIAL ADDRESS

D. S. RAMACHANDRA RAO, M.A., M.D.,
Bezwada.

Gentlemen,

I feel grateful for the honour you have done me by asking me to preside on this occasion. This may be your first visit to Andhradesa, but I trust that it shall not be the last. Bezwada has been blazing hot for some days now and you have come here while the summer has begun in right earnest; but had you come here a couple of months earlier you would have found this old city of ours not particularly unpleasant or unhealthy to live in. In spite of the seasonal discomfort, I trust you will have a good time here and I extend to you Bezwada's warm welcome in fact and in spirit.

We medical men and women have no doubt our share of trouble and disappointments whether we are in service or in independent practice. We wish to be what we are not and cry for the moon which we cannot get. But there is a discontent which savours of the divine and our profession will be none the worse if it gets bitten by its sting. Of course, we must realise, whether we practise in urban areas or in rural areas, that we have to shoulder responsibilities while we see that we have our due share of privileges. We cannot possibly have the one without the other. The ideal would be where both are equally and harmoniously co-ordinated. It is natural that you who live away in the remote villages, far away from modern civilisation, expect compensations, real and adequate, for the discomforts of rural practice.

In the Western world people have begun to be fed up with city life and the cry is back to the country. So you may be congratulating yourselves that you are pioneers of a movement the importance of which our country is just beginning to see. It is for you, gentlemen, to tell both the public and the powers that be, whether you are Independent Medical Practitioners

* The Subsidised (Rural) Medical Practitioners of the Madras Presidency.

taking jobs, in which the State is interested, for some consideration, or you are really State servants undertaking public service when you have the time for it. I believe that many of your difficulties would disappear when the world sees and realises what you really are. If you are the servants of the State it is for you to see whether it is worth while to accept service under your present conditions. If you are Independent Medical Men and Women, then, is it worth while to barter with your freedom for the pittance that you get from the State?

But money is not everything in life, particularly in the profession which you and I have the honour to belong to. No doubt a labourer is worthy of his hire, but not less nor more. The reward of any science is the achievement of the object it has in view—the service of humanity. That opportunity for service you have always with you in the village as in the city. In fact the opportunity is great in the village, for, as yet you are not too many. The need for scientific medical aid is very great at the present day, and it should be a comfort and joy to you to feel that you are occupying a much needed though neglected place in the country.

Of course, you cannot afford to look after the philosophic aspect of the question till the inner man is sufficiently satisfied. Unless you came from the village it would not be easy for you to adapt yourselves to the ways and habits of the villagers. The latter are in the habit of paying their obligations in kind rather in coin. They may not have as yet taken kindly to the Western system of medicine. It would not be an easy task to humour the rustic in his rustic condition. Still I am sure that with some effort on both sides, mutual accommodation would be possible and the amenities of rustic practice might not seem ultimately to be so negligible. No doubt, you have to meet unhealthy competition from quacks of the deepest dye there. But such competition is to be met in the urban area as well. It will be several generations before the public would be sufficiently enlightened as to know what is which, and till then we have to endure what we cannot cure.

There is a suggestion that the State should put down quackery by legislation. I do not think that the time is ripe for it yet. Even in a well organised and compact little country like England quackery abounds. Herbalists, bone setters, eye specialists and deafness curers abound by the score in a city like London. You cannot prevent human beings from exercising the art of cure so long as there are some willing to submit themselves to it.

But what the State could do is to penalise rash, negligent and unskilful attempt at the cure of disease so long as skilful aid is within reach. For instance, an optician is not permitted to use atropine for retinoscopic work. If he does it, he risks being prosecuted for contributing to the onset of glaucoma if that happens to develop. An operator, be he qualified or not, may be prosecuted for handicapping a patient by lack of sufficient skill.

In that way, you may create a holy fear in the hearts of men and women who have hitherto played havoc with human life and disease in the name of medical science. But unfortunately the masses of our country are not yet able to protect themselves. They are fatalistic, helpless and lazy, and take things lying down. Unless you could organise defence societies all over the country there is not much chance of the common people being able to defend themselves against those who take advantage of their good nature.

It should be borne in mind that how many you cure, but not how many you treat, that ultimately tells. Ten patients cured in a month is very much better than a thousand treated in the same period. You are lucky too in coming in contact with disease in its early manifestations. So, if you keep an open mind and an observant eye, and get early into the habit of keeping notes of your cases, I am sure you would be able to turn out work of considerable scientific value in the course of a decade. The doctor's home could be turned into a dispensary with a small laboratory attached to it. Later on it may be developed into a hospital. We have the example of Jullander and Mogha which have attained to All-India fame.

Of course, I do not cry down competition. Even in the economic world, we are learning, though late, that co-operation works better than competition. If there should be competition among the practitioners let it be for efficiency of work but not for lower remuneration, greater number of patients, and, therefore, bad workmanship.

Remember that the medical man is also a physiological organism and as such is liable to physiological laws as anybody else. You cannot always be working without peril to yourselves and your patients. You must have a holiday once a year, once a month, and even once a week. The busiest practitioners in other countries manage it. Otherwise, there would be a breakdown sooner than you expect. If you learn to co-operate with your neighbouring practitioner you will find you can do many things which you can never dream of doing by yourself.

"*Study leave*" is most essential in the interests of the profession itself. First visit the important hospitals of your own country. Then try to go abroad and do some post-graduate work. Try to get out of the old ruts and keep yourself abreast of the times. Try to be original, but not too original.

In the rural areas you will be the pioneers of public health service. In your spare time teach the people the simple things as not committing nuisance in the streets, not to spit in the houses, and not to blow their noses where people congregate. If you have a demonstration class once a week, it amounts to 52 classes in the year. No prejudice can stand in the way of pluck and perseverance. So far as our Presidency is concerned the Government does not seem to have understood the difficulties of the Independent Medical Profession. It pampers the Services. We need not grudge because we can stand on our own feet.

There are very few medical men in the local legislative council. No medical man has as yet undertaken ministerial responsibility. It is he who wears the shoe that knows where it pinches. See that your profession is properly represented at the next elections.

State aid is necessary in the development of rural areas and medical men need not fight shy of it. But they must preserve their independence in spite of the subsidy they get. It should be considered only as a second string to the bow, and their freedom maintained.

Some of the finest medical men in the world have worked on starvation wages for several years just for the love of their work. All rise to real greatness is through a winding stair case. At the end of our life, it is not how much we have earned that matters much, but how many we have helped, cured, and tried to make them stand on their own legs.

Art is long and life is short, and let us do the little we can with good cheer and in co-operation with our professional brothers and sisters.

GLEANINGS FROM MEDICAL LITERATURE

17 STRYCHNINE AND THE BARBITURATES: MUTUAL ANTIDOTES

The Clinical Journal, March 1934.

Strychnine and the barbiturates are mutual antidotes so that one can be used in poisoning by the other. Several cases have been reported of the use of strychnine in large doses in barbiturate poisoning. There appears to be an increased tolerance for the drug in this condition.

The following cases are of interest:—

1. A young woman, who had taken 5 grm. of gardenal was seen 27 hours later, comatose, temperature 103° F., pulse 115 per minute, breathing rapid and stertorous. In the following 11 hours six intravenous and one subcutaneous injection of strychnine sulphate, 1/100 gm. each, were given and 1 litre of normal saline was administered subcutaneously. Next day 11 intravenous and 2 subcutaneous injections of strychnine, making a total of 13 cgm. were given in the course of 24 hours at 2 hourly intervals. Next day 12 cgm. were administered in 24 hours. The next day 2 hourly injections were given till midday and later reduced to 5 mgm. On the 5th day 8 injections of 5 mgm. each were given making a total of 46 cgm. (about 7 grains).

2. Though such large doses may be given, a case is reported in which after as little as 23 mgm. given in 4 injections at 2 hourly intervals convulsions came on, thus showing that caution is necessary.

3. Another case is one in which 10 grms. of veronal had been taken with suicidal intent. Hourly injections of 1/100 grm. were given. Improvement was noticed after 23 cgm. had been given. After an interval, deepening coma required injections of a further 14 cgm. Eight hours later further injections of strychnine were given, making a total of 52 cgm. A brief interval of improvement was followed by deepening coma and the patient died.

4. A case of the converse was one in which a patient of 38, who had swallowed 270 mgm. of strychnine and had the fully developed symptoms of strychnine poisoning, was successfully treated by intravenous injections of 5 cc. somnifene, first at half-hourly intervals and later at hourly intervals till 25 cc. had been given in about 3 hours.

M. K.

18 ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PNEUMONIA.

LEWIS J. MOORMAN

International Clinics, 44th Series, Vol. IV. December 1934, p. 118.

There is sufficient reason to believe that artificial pneumothorax if employed in uncomplicated unilateral lobar pneumonia will bring about the same relief as that accompanying the crisis in ordinary cases. The following factors are considered as indications for artificial pneumothorax;

(a) *Atelectasis, massive or circumscribed.* This condition, depending upon its degree and extent, may give rise to symptoms and physical signs ranging from slight intra-thoracic distress (with slight displacement of the mediastinal structures towards the affected side), to pronounced pain and distress with marked displacement of the mediastinal contents towards the affected side. As the above phenomena are due to intra-thoracic negative pressure, the employment of artificial pneumothorax promptly restores the normal relationship of the mediastinal structures and thus relieves the pain and distress.

(b) *Pleurisy.* The pain of pleurisy is often so persistent in pneumonia that it is an indication for pneumothorax. The relief is prompt and the resulting comfort induces peaceful sleep, obviating the necessity for opium and other sedatives, and thus favourably influences the prognosis. With the relief of pain, there is marked reduction in the frequency of cough.

(c) *Separation of inflammed surfaces.* Artificial pneumothorax may limit the spread of pleural inflammation and decrease the incidence of empyema, by interposing a cushion of air between the two pleural surfaces and thus intercepting the constant friction and agitation which usually lead to aggravation and dissemination of infection.

(d) *Local rest.* By collapse therapy, secretions and inflammatory exudates are pressed out, and their progress towards the periphery is retarded. The absorption of toxins is lessened through diminished flow of blood. The relief of pain and added comfort favours general rest. To get the best result the lung must be collapsed before consolidation is complete, and the inflammatory process is wide spread. Clinical experience and rontgen rays bear evidence to the fact that the more complete the consolidation the more incomplete the collapse from pneumothorax.

In the induction of artificial pneumothorax one must bear in mind the danger of sudden death from air embolism, or so-called pleural shock. Traumatic or spontaneous pneumothorax with bronchial fistula may produce extreme shock, and empyema is a dangerous complication. It is essential to use at the first operation a needle of proper size, gauge 18, with a blunt point or a bevel approximating 45 degrees. The stilette should be well fitted. If these precautions are disregarded, grave danger to the visceral pleura may result. In pneumonia, it is not necessary to bring the field of operation into bold relief, with widened interspaces, as in pulmonary tuberculosis. With rare exceptions, the best position for operation is the position assumed by the patient when left to his own wishes. The field of operation should be in the lower half of the thorax, anywhere above the diaphragm, between the mammary line and the para-vertebral line. If the patient is lying on the back, the needle may be introduced in the 3rd to the 5th interspace, in the anterior axillary line. If the patient assumes the lateral position, the affected side is down and a change of position is necessary.

The field of operation should be away from the location of gross disease. If the introduction of the needle produces trauma of the visceral pleura, repair without infection is likely to occur if the point of attack is outside the field of acute inflammatory reaction. Manometer readings must be more highly respected than in tuberculous cases and free oscillation must be secured before air is introduced. Frequent manometer readings must be taken to avoid positive pressures which must be avoided at all costs. The pressure reading following the initial filling should be negative, and the amount of air introduced should not exceed 300 cc;

The intervals between the refills should be from 12 to 24 hours so as to maintain a fair degree of collapse. The number of refills may vary from 1 to 3.

V. G.

19 TREATMENT OF VARICOSITIES.

H. H. FAXON

Archives of Surgery, November, 1934, p, 794.

In cases of varicosities of the internal saphenous system in which it can be shown that the valves in the main saphenous trunk are incompetent, ligation of the vein in the groin is an indispensable adjunct to any form of treatment, since it affords the only permanent means of relieving the varicosities of the lower part of the leg from the back pressure exerted on them from above. To be effective, the vein should be tied off at the sapheno-femoral junction above its three highest tributaries, viz., the superficial circumflex-iliac, the superficial epigastric, the superficial external pudendal (all of which branch off, as a rule, within the first three centimeters), which would otherwise open up collateral venous channels round the point of ligation.

The contraindications are the presence of highly virulent organisms such as streptococci in a complicating ulcer or any inflammatory process in the groin, when high ligation must be postponed until these conditions have subsided under appropriate treatment. In cases where Van Pertue's test (it is done by putting a tourniquet just light enough to obstruct the superficial veins and making the patient walk; if deep veins are patent, varicosities become less prominent; if they are thrombosed and so impaired, the varicosities become more prominent) shows impairment of the deeper venous circulation, high ligation is not performed nor for that matter any other treatment.

The procedure requires careful preparation of the field of operation, and local anaesthesia is employed. In cases where landmarks are vague, a transverse incision might be advantageously used. The upper end of the saphenous vein is exposed as it dips into the fossa ovalis, the ligation is done just below the fossa in two places, and the vein divided between. Care should be taken that patients remain ambulatory following operation, to minimize the dangers of pulmonary embolism which is, however, very rare. A thorough course of injections, started soon after the wound is healed, which, because of the preliminary ligation, are very much fewer in number, is necessary. This combination of high ligation and subsequent injections offers a better chance of obtaining permanent cure than any other method of treatment, including the old extensive surgical procedure.

P. G. R.

20 DIAGNOSIS AND TREATMENT OF INTESTINAL OBSTRUCTION.

DAVID H. PATEY

The Clinical Journal, March 1935, p. 89.

The reasons for the high mortality in cases of intestinal obstruction are (1) difficulties of diagnosis and (2) difficulties of treatment.

(1) *Diagnosis*: The difficulties are (a) insidious onset of the condition which may be mistaken by the patient and the doctor for a simple attack of abdominal

colic; (b) absence of physical signs; (c) temporary marked improvement in the symptoms which may follow administration of opiates.

Two tests which will help in making an absolute diagnosis are:—

(a) After a turpentine enema, if the patient fails to pass flatus and the enema is returned without any force it is a case of intestinal obstruction or of paralytic ileus.

(b) The more important aud a newer test is a *plain radiogram* of the abdomen. The principle of the test is that above an obstruction gases accumulate which may show up on simple X-ray examination. The colon normally contains gas so that in large-gut obstructions there is merely an inerease in the amount of this gas, but the extent of this increase and distribution may give valuable information. The small gut, on the other hand, is normally free of gas so that a little in a loop of the small bowels is practically diagnostic of intestinal obstruction.

(2) *Treatment*: This may be considered under three headings:—

(1) Treatment of intestinal paralysis: the distension, vomiting and constipation may persist or grow worse, after the operation;

(2) combating the dehydration;

(3) treatment of toxaemia.

(1) The treatment of the paralytic condition of the bowel is sometimes very simple and sometimes extremely difficult. The simple cases respond to subcutaneous injections of pituitrin or eserine, or to turpentine enemata, whereas the serious ones grow worse in spite of the above measures. The chief methods recently adopted for combating such a grave situation are—

(a) Morphia; (b) "Intestinal decompression"; (c) Spinal anaesthesia.

(a) There was a prejudice against the use of morphine after operations because it has a paralytic action on the intestines. It is deliberately used in such conditions which predispose to paralysis, such as peritonitis, on the principle that if the patient's strength is conserved and the bowels rested, paralysis is less likely to develop than if the bowel is repeatedly stimulated. Experience has corroborated this theory.

(b) "Intestinal decompression" or continuous suction drainage through a Ryle's tube introduced through the nose or mouth. The tube is connected with a suitable apparatus which aspirates the stomach and indirectly the upper small intestine. With this the distension subsides, pain is relieved, and the patient is able to sleep.

(c) Spinal anaesthesia is occasionally used in the treatment of paralysis of the bowels, but it should be done very lightly, as it reduces the blood pressure, The spinal anaesthetic acts by interrupting the sympathetic inhibitor nerves to the bowels and causes overaction of the parasympathetic.

(2) Dehydration—treated with rectal, subcutaneous, or intravenous saline as the case may require.

(3) Toxaemia is treated with antitoxins of *B. welchii* and other anaerobic organisms.

P. N.

JOURNAL OF SOUTH INDIAN MEDICINE

MAY, 1935.

ELECTION TO THE INDIAN MEDICAL COUNCIL

The election to the Indian Medical Council to fill the vacancy caused by the untimely death of DR. T. KRISHNA MENON is over, and DR. T. SATAKOPAN, M.D., *Vice-President, South Indian Medical Union,* Honorary Physician, Government General Hospital, Madras, and Member (nominated), Madras Medical Council, has been returned with a majority of over 250 votes. We would congratulate not only DR. SATAKOPAN, but also the electorate, on the result of the election. In congratulating DR. SATAKOPAN on a success of which he is fully deserving, we would point out that he is well qualified and well able to represent the Medical Graduates on the Madras Medical Register in the Indian Medical Council. His long experience, both as a physician and as a teacher, in two important teaching hospitals in the Presidency and his connection with the University of Madras as a member of the Board of Studies in Medicine are bound to be of great value in the deliberations of a Council which primarily concerns itself with Medical Education. Further, he has proved himself a champion of the rights of the Independent Medical Profession of South India during his long association with the SOUTH INDIAN MEDICAL UNION in various capacities (General Secretary, Member of the Editorial Committee, Member of the Council, and Vice-President). We are sure that in him Madras has a representative who will do his utmost to further the cause of Medical Education in India. We congratulate the electorate not only for returning DR. SATAKOPAN as the candidate best fitted to represent them, but also for recognizing, in view of certain statements made in the election manifesto of DR. SATAKOPAN's rival, that independence of views and action is in no way hampered by the fact of being a Government nominee in the Provincial Medical Council or of holding appointment as Honorary Physician in a Government Hospital. In this connection we would remark that we take the great victory of DR. SATAKOPAN as also a vindication of the fair memory of the late DR. T. KRISHNA MENON than whom a more fearless or

more doughty champion we, the Independent Medical Profession of South India, never had. We are constrained to do so because of the unhappy reference to him in the manifesto referred to above questioning his independence of action in the Indian Medical Council. Finally, we thank the electorate for the support which was so freely given to DR. SATAKOPAN—a support which we feel sure DR. SATAKOPAN will fully justify by his actions in the Council of which he is an *elected* member.

The Council of the South Indian Medical Union.

CONTROL OF CANCER

The problem of cancer has been engaging the attention of medical men and others for the last few decades. The misery and the havoc resulting from this cruel malady have moved many wealthy individuals and organizations to endow institutions and workers with money to work out the etiology and possible cures. In spite of the spending of much money, thought and labour, several important aspects of the disease still elude discovery. Most of the prominent countries of the world have been carrying on research on different aspects of cancer with varying intensity and enthusiasm; and, since the problem bristles with many difficulties, periodic conferences are held where the different workers compare notes.

Dr. RAMA RAO[1] has done well to notice the Proceedings of the last Congress of Radiology held in Switzerland. In the short review, he regrets very much that India was not represented officially at the meeting, and none from India said anything about anti-cancer measures in the country. It is certainly regrettable that this country should not have sent a representative to the Congress; it is even more regrettable that there should be no organized research on cancer in the country. We are not aware of the reasons for the non-inclusion of this country in the British Empire Cancer Campaign. It cannot be because the disease is not prevalent here. It is true that cancer is not so wide-spread in India, but it cannot be denied that a large number of people suffer from the disease.

But India has her own urgent problems of health to tackle. Many of the countries represented at the Congress have not such a multitude of difficult problems as cholera, plague and hookworm disease. Malaria and its control present very difficult features in this vast country. India not being rich, the Government probably feel that they cannot justifiably embark on

1 RAMA RAO, P.—*The Need for a National Anti-cancer Campaign in India*, JOURNAL OF SOUTH INDIAN MEDICINE, Vol. I., No. V., May, 1935, *p.* 183.

another department of research. Financial stringency would be the excuse. This is getting as familiar as the proverbial lack of time of the lazy man. The cynic might suggest that want of funds is merely an excuse for unwillingness.

But, as pointed out already, there are other diseases more widespread and more urgent. The ravages of leprosy and tuberculosis are assuming alarming proportions. We do not, therefore, think that this country would be wise to embark at present on costly experiments on cancer when the other diseases require urgent attention. We do not thereby suggest that nothing should be done for cancer patients. There must be at least efforts to take advantage of work that is being done elsewhere. We dare say that this is being done.

THE RURAL MEDICAL SCHEME

The Subsidized (Rural) Medical Practitioners of the Presidency have held another successful Conference this year. The scheme, commonly known as the Rural Medical Scheme, has been in existence for about a decade. Ever since its inception, critics have not been wanting to emphasize its defects. People who have been used to ordering about their subordinates have not always taken kindly to the little independence that these humble practitioners have occasionally exhibited. And the Government who often hear complaints from both sides naturally are a little reticent in the appreciation of the good and useful work done by the rural practitioners. But the fact that till recently the number of such subsidized appointments has been increased year by year, and the further fact that the Government has attempted now and then to meet the requests of the practitioners to some extent, tend to show that the Government thinks well of the working of the scheme on the whole.

Going through the number of resolutions that have been considered and passed at the fifth conference held at Bezwada, we are constrained to remark that there is an apparent misapprehension all round. The authorities who have the supervision of these centres of medical relief seem to think that because the rural practitioners are subsidized, they should be considered to be more or less whole time officers, directly and completely under the control of such authorities. They forget that they should not treat people who are just paid a sort of retainer to settle down in areas which would not otherwise tempt medical men to settle down there, on the

same terms as those who are paid what is expected to be a reasonable full living wage. The rural practitioners cannot certainly be expected to live on the subsidy alone. They should be enabled to supplement their subsidy by certain amount of private practice in and around the villages where the dispensary is established. In fact, in the interests of the poorer population, the more fortunately placed individuals in these areas should deem it their duty to make it worth while for the practitioners to remain in such places by encouraging them whenever they can, by paying reasonably for their services. On the other hand, there is an impression abroad that the helpless condition of the rural practitioners is sometimes exploited by the richer and influential classes by compelling the medical men to do service which should not legitimately be expected of them.

The practitioners themselves are not entirely blameless. It looks as if they claim all the privileges of independent practitioners, with a tendency to forget frequently that they are partly remunerated for their services by the public authorities, while, at the same time, some of their claims make one wonder if they are not making the mistake of placing themselves within the category of stipendiary officers of state public dispensaries, as instanced by their grievances about leave rules. An independent practitioner dare not leave his district without making adequate arrangement for the continuity of service, in spite of the fact that he has not to seek permission from any one. Many of the complaints against the rural medical practitioners and their grievances which are ventilated at successive conferences could be easily avoided if all those concerned would only understand their respective positions and duties.

MEDICAL PERIODICALS

THE INDIAN MEDICAL GAZETTE

VOL. LXX NO. 3 MARCH, 1935.

Drug Addiction in India and its Treatment, R. N. Chopra. *p.* 121.

The habitual use of drugs of a stimulative and restorative character was prevalent in India even in ancient days. The juice of the '*Soma plant*' was regularly taken by the Aryan settlers many centuries before the Christian era. During the Hindu period, i. e., up to the 8th or 9th century A. D., alcoholic beverages and preparations of the hemp drugs were in common use. Poppy and opium were introduced about the 9th century A. D., and soon found addicts. During the Moghul period, alcoholic beverages, opiates, and hemp drugs were freely used. Cocaine found its way into India only 50 years ago, but its use is spreading, especially in North India. Chloral hydrate has come into use only during the last ten years. Likewise, barbituric acid derivatives are of recent introduction. But though these drugs are now being used only to a limited extent, there is danger of their extensive employment, especially for adulteration of alcoholic beverages.

Opium eating is very prevalent in India. A rough estimate is that 1 to 1½ million persons habitually take this drug. It is, however, diminishing. During the last two decades the consumption of opium has fallen by at least one-half. The drug is habitually administered to infants in certain areas, especially in the Central Provinces and Berar, and in other cotton-growing areas. Opium smoking, although not common, is still practised in many parts of the country. It is specially common in Assam. Habitual use of *post*. or unlanced poppy capsules, was widespread in India during the Moghul peried. The capsules were employed to prepare a beverage which had soothing and soporofic effects. The use of *post* has considerably diminished, but it is still prevalent in certain districts of the Punjab and in many parts of Rajputana. The habitual use of poppy heads produces physical, mental, and moral degeneration; its effects on the individual are much more deleterious than those of opium habit. Habitual use of morphine has increased considerably during recent years, and there appears to be grave danger of rapid extension of this habit throughout the country. Morphine addiction is usually met with in young persons between the ages of 20 and 25 years. The habit produces a state of chronic toxaemia and detrimentally affects all tissues of the body, particularly the nervous tissues. In morphine habitues physical mental and moral deterioration sets in much more rapidly than in opium addicts.

The hemp preparations, *bhang* (dried leaves), *charas* (oleo-resinous exudate), and *ganja* (flower tops covered with resin) are extensively used all over the country in the lower strata of society on account of their very low cost. At a very moderate estimate at least 1 to 2 millions of the population take hemp drugs habitually. The physical and mental effects produced by these drugs appear not to be as marked as those produced by opium, but they undoubtedly lead to mental and moral degeneration. When under the effect of these drugs, the addicts appear to lose all idea of correlation of time and space. They forget their environment and do not know what they are doing.

As regards habitual indulgence in alcohol, *pachwai* (fermented rice) and *tari* (fermented

palm juice) are largely used by the poorer classes. These drinks contain very little alcohol, are of high nutritive value, and are rich in vitamins which are often lacking in the general dietary of the people who take them. Distilled country spirit and imported liquors are used by the richer classes. But alcoholism has not yet assumed menacing proportions in this country.

Cocaine habit is spreading in India, especially among well-to-do people and persons of the artisan class in the large towns. The drug is usually consumed by putting it in *pan* or betel leaf, and for that reason addiction to this alkaloid is prevalent among the betel-chewing population of North-West India, Bengal, Bihar, the United Provinces, and the Punjab. Cocaine habit is one of the most pernicious of the drug habits.

Addiction to chloral hydrate is the outcome of the increase in the price of spirituous liquors. The drug is commonly employed to accentuate the effects of alcoholic drinks. It is also mixed with tea and habitually consumed by some people. The drug is powerful and toxic, and several fatalities have been reported from accidental overdoses. As it is cheap and easily procurable there is grave danger of the spread of its habitual use.

The barbituric acid derivatives are widely advertised in the country by circulars and so forth which reach not only the medical profession but also the lay public. There is no control over their sale. Hence, they are employed for self-medication by the public. Fatalities have resulted not only from such self-medication but also from their indiscriminate therapeutic use. The barbiturates produce dangerous cumulative effects and also a tendency to habit formation.

In India, the more important habit-forming drugs, opium, hemp, and alcohol, are mostly used in the crude form, and they are most commonly taken by the mouth. The desire to use them so as to produce intense effects is rarely present in the Indian habitue because of the conditions of life which, in spite of the poverty, permit of a comparatively free and easy existence. As regards opium and hemp drugs, religious and social customs make their use almost compulsory among certain classes on such occasions as marriages, deaths, and social gatherings. Further, preparations of these drugs are largely used as household remedies, especially by the poorer classes and habits are often formed from such use. The belief is prevalent among the masses that opium is a wonderful tonic for the child and that it stimulates his growth and prevents him falling ill. Many minor ailments are relieved by these drugs in small doses, and they are habitually used by sufferers for this purpose.

The treatment of drug addiction in India is very unsatisfactory. The medical profession is ill-informed on the subject; the general hospitals provide no facilities for the purpose; and special institutions for the care of the drug addict are wanting. From the stand-point of treatment Indian drug addicts are of three types: 1. Those who use the drugs in small or very moderate quantities. They form a large group. They use opium or hemp drugs. The majority of these have started taking the drug late in life, generally for some minor ailment. They start with a small dose and do not increase it. Most of them lead useful busy lives. Many have taken the drug for 20 or 30 years without apparent harm. Stopping the drug has often made them ill. Treatment is unnecessary in this group. 2. Those who have acquired the habit on account of association with other addicts. They form a not inconsiderable group. Some of them are normal individuals who are anxious to get rid of the habit and these respond well to treatment. A proportion start the habit for the pleasure-giving effects of the drug and for sexual stimulation. This kind of habitue is found in large towns. Many of them have some defect in their

character and mental make-up. They have a tendency to use more than one drug at the same time. Comparatively few of these are seen in India, and these few belong to the rich indolent classes. They do not seek treatment nor do they respond satisfactorily when treated. 3. Those who have started using the drug in an attempt to tide over a period of stress or fatigue. They form a small group. They are generally found in the large towns. They are anxious to get rid of the habit, and are easily amenable to treatment. Medical practitioners should exercise great care in employing therapeutically the habit-forming drugs lest the patients develop a drug habit as a result of their indiscriminate use.

In the treatment of opium addiction, sudden withdrawal of the drug, successfully employed in Europe and America, is possible only in special institutions which afford facilities for keeping the patients under control. Sudden withdrawal of opium, especially in persons taking large doses, produces intense physical and mental suffering; the post-withdrawal insomnia and the digestive and other troubles are extremely distressing, and require careful handling. The absence of institutions where the patients can be handled efficiently makes this form of treatment unsuitable to this country. Gradual withdrawal has given extremely good results in a large proportion of cases. With the gradual method, the pain and discomfort of actual withdrawal are reduced to a minimum. The post-withdrawal insomnia is much less frequent. The patient does not have unpleasant memories of his restoration period. Gradual withdrawal is, therefore, the method of choice in India, and in most instances a cure can be effected by this method in 3 to 6 weeks. The dosage of the drug is decreased very gradually at first; after a few days it is reduced more rapidly, and a pill containing nux vomica, gentian, and black pepper is given as a substitute. The substitution is started with the morning dose at first, leaving the evening dose untouched. Later, in 3 to 4 weeks, the drug is entirely stopped. Minor symptoms such as diarrhœa, epigastric pain, and nausea are treated with ordinary alkaline mixtures. It should be remembered that there is a predominant psychic element in opium addiction and the production of withdrawal symptoms. Proper attention to this psychological element is necessary if the treatment is to be successful. In children the habit may be completely cured by the sudden or the gradual method. Opium smoking is more difficult to cure than opium eating. Addiction to *post* is extremely difficult to eradicate; but the gradual withdrawal method has often given good results.

The treatment of hemp drug habit is usually not difficult, though it is easier to cure the eating habit than the smoking habit. In those taking the drug by mouth, it can be withdrawn suddenly with no untoward symptoms. Temporary loss of appetite, constipation lasting for a few days, and rarely palpitation and restlessness may occur. These can be easily dealt with. The smoking habit can be cured only in institutions with facilities for forcible withdrawal.

Cocaine habit may occasionally be cured by removing the addict from the environment in which he acquired the habit and from associates in whose company he indulges in it. Cocaine injecting is far more difficult to eradicate than cocaine eating. Sudden withdrawal, treatment of the withdrawal symptoms, and psychotherapy will often prove successful in many cases.

As auxiliary treatment, atropine and hyoscine have been given in the earlier stages of withdrawal of opium and strychnine in the later stages with good results. Administration of insulin with or without glucose has often proved successful in the treatment of morphine habit.

The vesicatory serum therapy of Modinos is a valuable measure in the treatment of opium addicts, and many addicts will be completely and permanently cured of the

habit through its agency.

The lecithin treatment of opium addicts mentioned by Mau is under trial.

Conservative Surgery in Malignant Disease, T. Howard Somervell, *p.* 131.

Duration and Degree of Immunity against Small-pox conferred by Infantile Vaccination, J. L. Pinto, *p.* 135.

Some Observations on the Lactose-fermenting Organisms encountered in the Bacteriological Analysis of Water in the Tropics, G. Mackey, *p.* 140.

Fumigation and Trapping of Mosquitoes, J. F. James, *p.* 143.

THE MEDICAL BULLETIN

VOL. III. NO. 9. APRIL 27th, 1935.

Carcinoma of the Tongue, S. J. Mehta, *p.* 171.

Carcinoma of the tongue is seldom diagnosed early enough. The commonest condition for which it is mistaken is tertiary syphilis of the tongue. But it should be remembered that tertiary syphilitic lesions of the tongue are in these days rarely met with in practice. An important reason for late diagnosis is the situation of the carcinoma in the patients in this country. In Western countries, carcinoma most frequently occurs in the anterior two-thirds of the tongue; here *it is seen most* frequently in the posterior third of the organ. It is not possible to see the lesion unless careful examination is made of the base of the tongue. Digital palpation of the base of the tongue should be done in every case where an ulcer or nodule is present or suspected in that situation, and the following points carefully noted—presence of an ulcer, or a nodule; its hard consistency; hard everted raised margins; induration and infiltration of the base of the ulcer; size of the ulcer; depth of the ulcer; and its lower limit. *Practitioners should remember that when the* cervical lymphatic glands show involvement the carcinoma has passed beyond the stage when anything of real benefit can be done for the patient. Carcinoma of the tongue may exist as an ulcer, a papillomatous mass, a fissure, a thickening in a leukoplakic patch, a large nodular area, or a wart, the common clinical feature of all these being *induration.* The possibility of innocent lesions in the tongue becoming malignant should also be remembered. When there is doubt, microscopic examination of a portion of the suspicious area should be undertaken.

Whooping Cough, G. Coelho, *p.* 175.

Therapeutic Memoranda : Treatment of Haematemesis, *p.* 182.

Important points in the treatment of haematemesis are—*Physical rest*: patient is laid flat on the bed—no pillows—and is allowed to move but little. Urine is passed and bowels moved only in bed. This enforced immobility is enjoined for at least twenty-four hours. An ice-bag, suspended from a cradle, is put on the epigastrium. Patient is kept warm with hot water bottles. Covering should be light. The foot of the bed is raised if necessary. *Mental rest*: achieved by morphia—¼ to 1/3 gr. is the dose recommended. It also checks bleeding indirectly by inhibiting the movements of the stomach and intestines. Injections may be repeated after 4 to 6 hours if the patient is restless or if there is recurrence of bleeding. Morphia is contraindicated in haematemesis due to cirrhosis of liver. In this condition sedative effect is obtained by administering chloral and bromide enema (chloral hydrate, 20 to 30 grs., and potassium bromide, 40 to 60 grs.,) Patient is given no feeds, not even ice to suck. The mouth is kept moist by a few drops of sour lemon juice. Plain

water or normal saline is given per rectum to allay thirst. Glucose may be added to the rectal saline to prevent any acidosis arising from starvation. If rectal saline is not retained, subcutaneous saline with glucose (5 per cent) should be given, Intravenous saline and glucose may have to be given in severe cases with collapse. Calcium and other coagulants are ordinarily advised to be administered. *Local treatment*—is of doubtful value. Adrenaline (1 in 1000 solution) may be given in 1 to 2 drachm doses by mouth for its local vaso-constrictor effect. Stomach lavage is resorted to only in cases of repeatad haematemesis. According to Hurst, lavage with ice-cold water to remove the clots and stimulate the stomach to contract is followed by a complete cessation of haemorrhage. After twenty-four hours, if haemorrhage does not recur, 50 per cent glucose solution is administered in smal-quantity (½ oz.) at frequent intervals (hourly).

THE CALCUTTA MEDICAL JOURNAL

VOL. XXIX. No. 9. MARCH. 1935.

Snake Bites and Their Treatment in India, R. N. Chopra and J. S. Chowhan. *p.* 459.

Summary of the routine treatment of snake bite:

(a) "1. The first aid treatment is used if the patient is seen within ten minutes of the bite. Secure absolute recumbancy. Fix a tight band immediately on the limb a few inches proximal to the bitten area and another ligature about 6 inches above. The ligature should be tight enough, but should not obliterate the arterial circulation. The limb having a single bone is the best site for ligature. 2. If the bitten area is a finger or a toe apply a ligature above and amputate the bitten part within 10 to 15 minutes. 3. If the bitten area is a flat surface or is very vascular, immediately incise it about 1/8 to ¼ inch deep and ½ inch long and forcibly express the blood and fluids as much as possible and apply suction cups or breast pump. Rub in crystals of potassium permanganate or swab well the incised parts with strong solutions of this salt. 4. Cauterize the bitten area with strong acids, alkalies or burn it with live coal and keep the patient at perfect rest. 5. Give stimulants like spirit of sal volatile (Spt. ammon. aromat) 10 to 15 drops is an ounce of water, coffee, etc., and wait for the physician. Keep the patient in bed. 6. Rest assure the patient that the danger of the snake bite is usually overrated and that ⅔ of all the bites are usually from non-poisonous snakes and therefore there are more chances of recovery and less of serious consequences."

(b) "*Specific treatment by a physician.*—1. By the time the physician arrives much delay, hesitation and application of indigenous remedies may have resulted. His responsibility is very great; life is in imminent danger and death may probably follow rapidly; he has therefore to decide quickly and act quickly. If the patient has been reached early and if the bite was from a viper he should examine the parts, tighten the ligature and excise the areas. 2. Infiltrate the bitten area with 5-10 c. cm. of the antivenine serum, if not available 5 to 10 c. cm. of 5 per cent. solution of gold chloride or 1-5 per cent. solution of potassium permanganate with a Record syringe till the solution begins to ooze out of the wound. (3) Inject specific antivenine as soon as possible after the bite. In cases of Cobra or Daboia bite, inject 80 to 180 c. cm. of antivenine intravenously within 20 to 30 minutes and give still larger doses if venom intoxication is coming on. With sera concentrated four times a dose of 20 to 60 c. cm. should save every case if given within ½ to 1 hour of the bite. If intravenous administration is difficult, it may be given hypodermically into the sides of the abdominal wall. 4. Inject antistreptococcal polyvalent serum as dental and oral

sepsis is common in snakes. Inject intravenously calcium chloride 2 per cent. 30 c. cm. thrice daily; give a saline purge and ensure perfect rest."

THE BOMBAY MEDICAL JOURNAL

VOL. IV. No. 1. JANUARY, 1935

Present Status of Radio-Therapy with special reference to Solarium Treatment, P. M. Mehta, *p.* 1.

Milk Injections, A. F. da Costa, *p.* 8.

Puerperal Sepsis, F. R. Parakh, *p.* 9.

In the treatment of puerperal sepsis, intra-uterine douches are useless, if not harmful. Glycerine irrigation is valuable. Sera have given little benefit; but may be employed as a prophylactic measure. Intravenous injection of freshly prepared 2 per cent. solution of chemically pure magnesium sulphate is undoubtedly of great value in most cases. In employing this method of treatment the following points are very important.—1 The solution should be at body temperature. 2. The needle should be of the smallest calibre. 3. The solution should be injected very very slowly, taking at least 20 to 25 minutes to inject a quantity of 8 ozs. This is the quantity injected at the first sitting. 4. If any signs of cardiac embarrassment or any signs of restlessness appear, the injection should at once be stopped. 5. The funnel should, under no circumstances, be higher than about 2 feet from the patient's arm. 6. The magnesium sulphate should be absolutely chemically pure. 7. The solution should be carfully filtered before sterilisation in an autoclave. It should never be boiled.

Paroxysmal Hypertension, R. G. Dhayagude, *p.* 11.

A Case of Coronary Embolism, R. G. Dhayagude, *p.* 12.

The Treatment of Gastric and Duodenal Ulcer by Active Immunisation combined with Metaphen, M. R. Brady, *p.* 13.